# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

#### LAKE TROPHIC DATA

#### MORPHOMETRIC:

Lake: EZEKIEL POND		Lake Area (ha):	4.17
Town: DERRY		Maximum depth (m):	2.5
County: Rockingha	m	Mean depth (m):	1.0
River Basin: Merrimack		Volume (m³):	43500
Latitude: 42°51'07"		Relative depth:	1.1
Longitude: 71°16'53"	W	Shore configuration:	1.29
Elevation (ft):	287	Areal water load (m/yr):	13.97
Shore length (m):	935	Flushing rate (yr <sup>-1</sup> ):	13.40
Watershed area (ha):	121.5	P retention coeff.:	0.51
<pre>% watershed ponded:</pre>	0.0	Lake type: n	atural

BIOLOGICAL:	4 February 1998	27 August 1997
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 97%	DINOBRYON 80%
#2		CERATIUM 15%
#3	,	
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		2.70
DOM. ZOOPLANKTON (% TOTAL) #1	SPARSE - NO DOMINANT	PROTOZOAN SPP. 38%
#2		CALANOID COPEPOD 29%
#3		DIAPHANOSOMA 10%
ROTIFERS/LITER	9	12
MICROCRUSTACEA/LITER		235
ZOOPLANKTON ABUNDANCE (#/L)	37	404
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		2.2 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)	2.8	5.0
BACTERIA (E. coli, #/100 ml) #1		8
#2		
#3		

#### SUMMER THERMAL STRATIFICATION:

### not stratified

Depth of thermocline (m): None Hypolimnion volume  $(m^3)$ : None Anoxic volume  $(m^3)$ : None

CHEMICAL:			EZEKIEL I DERRY	POND		
	4 Febru	lary 1998	27 1	August	199	7
DEPTH (m)	1.0		1.5			
pH (units)	5.8		6.9			
A.N.C. (Alkalinity)	21.0		24.3			
NITRATE NITROGEN	0.17		< 0.05			
TOTAL KJELDAHL NITROGEN	0.50		0.60			
TOTAL PHOSPHORUS	0.022		0.012			
CONDUCTIVITY (µmhos/cm)	510.2		357.3			
APPARENT COLOR (cpu)	65		45			
MAGNESIUM			2.02			
CALCIUM			13.9			
SODIUM			50.2			
POTASSIUM			2.67			
CHLORIDE	152		102			
SULFATE	10		4			
TN : TP	30		50			
CALCITE SATURATION INDEX			1.9			

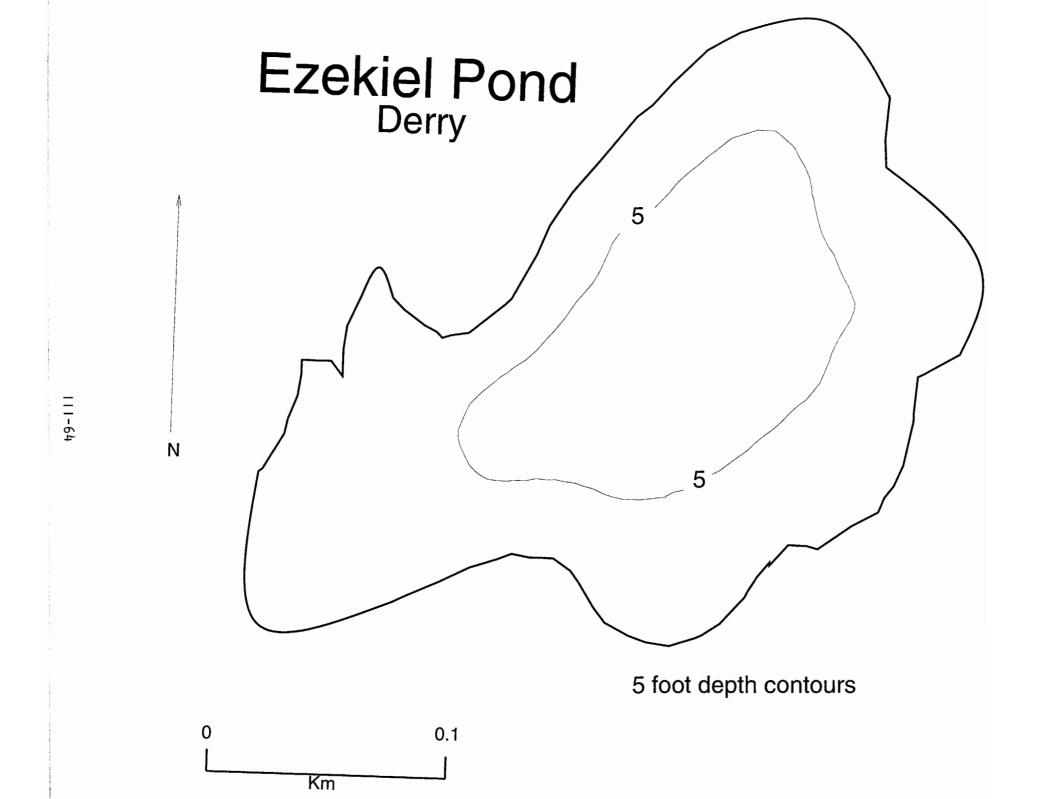
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1997

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	3	0	5	Meso.

#### COMMENTS:

- 1. No boat launch. Pond was accessed by carrying a boat down an abandoned railroad bed, then along a narrow path to the water.
- 2. This is a small, shallow, tea-colored pond with elevated levels of conductivity, chloride and sodium (and other cations), suggesting salted highway runoff (Rt 28 passes through the watershed).



#### FIELD DATA SHEET

LAKE: EZEKIEL POND DATE: 08/27/97 TOWN: DERRY WEATHER: CLEAR, SUNNY & WARM

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	22.8	6.2	71 %
1.0	22.0	6.4	73 %
2.0	21.5	5.0	56 %
		4.00	
1/41/44			
Market			

SECCHI DISK (m): 2.2 VOB COMMENTS:

BOTTOM DEPTH (m): 2.2

TIME: 1120

\*Dissolved oxygen values are in mg/L

Km

# AQUATIC PLANT SURVEY

LAK	E: EZEKIEL POND	TOWN: DERRY	DATE: 08/27/97
Кеу	PLANT	ABUNDANCE	
ive y	GENERIC	COMMON	ADONDANCE
b	Scirpus	Bulrush	Common
T	Typha	Cattail	Sparse
N	Nymphaea	White water lily	Common
U	Utricularia	Bladderwort	Scattered
g	Myrica gale	Sweet gale	Sparse
A	Sagittaria	Arrowhead	Sparse
Y	Nuphar	Yellow water lily	Sparse
			·
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# OVERALL ABUNDANCE: Common

# **GENERAL OBSERVATIONS:**

1. This is a small, shallow pond surrounded by wetlands. The wetlands were mostly swamp maple and other woody plants along with bulrushes.